β-Amyloid (12-28) (TFA)

Cat. No.: HY-P1051A

Molecular Formula: $C_{91}H_{136}N_{25}F_3O_{27}$

Molecular Weight: 2069.2

Sequence: Val-His-His-Gln-Lys-Leu-Val-Phe-Phe-Ala-Glu-Asp-Val-Gly-Ser-Asn-Lys

VHHQKLVFFAEDVGSNK (TFA salt)

Sequence Shortening: VHHQKLVFFAEDVGSNK

Target: Amyloid-β

Pathway: Neuronal Signaling

Storage: Sealed storage, away from moisture

Powder -80°C 2 years

-20°C 1 year

* The compound is unstable in solutions, freshly prepared is recommended.

SOLVENT & SOLUBILITY

In Vitro

DMSO : 120 mg/mL (57.99 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	0.4833 mL	2.4164 mL	4.8328 mL
	5 mM	0.0967 mL	0.4833 mL	0.9666 mL
	10 mM	0.0483 mL	0.2416 mL	0.4833 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 3 mg/mL (1.45 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 3 mg/mL (1.45 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 3 mg/mL (1.45 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

β-Amyloid (12-28) (TFA) (Amyloid β-Protein (12-28) (TFA)) is a peptide fragment of β-amyloid protein (β1-42). β1-42, a 42 amino acid protein , is the major component of senile plaque cores. β-Amyloid (12-28) (TFA) shows aggregation properties. β-Amyloid (12-28) (TFA) has the potential for Alzheimer's disease research[1].

In Vitro

β-amyloid (12-28) may exert dysregulation cognitive effects by means of defective coordination of potassium channel function in nerve, glia and endothelial cells[1].

β-Amyloid Aggregation Guidelines (Following is our recommended protocol. This protocol only provides a guideline, and should be modified according to your specific needs).
1. Solid Aβ peptide was dissolved in cold hexafluoro-2-propanol (HFIP). The peptide was incubated at room temperature for at least 1h to establish monomerization and randomization of structure.
2. The HFIP was removed by evaporation, and the resulting peptide was stored as a film at -20 or -80 ℃.
3. The resulting film was dissolved in anhydrous DMSO at 5 mM and then diluted into the appropriate concentration and buffer (serum- and phenol red-free culture medium) with vortexing.
4. Next, the solution was age 48h at 4-8 ℃. The sample was then centrifuged at 14000g for 10 min at 4-8 ℃; the soluble oligomers were in the supernatant. The supernatant was diluted 10-200-fold for experiments.
Methods vary depends on the downstream applications.
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Rabanal F, et al. Structural, kinetic and cytotoxicity aspects of 12-28 beta-amyloid protein fragment: a reappraisal. J Pept Sci. 2002 Oct;8(10):578-88.

[2]. Nikunj S Patel, et al. Potent anti-angiogenic motifs within the Alzheimer beta-amyloid peptide. Amyloid. 2008 Mar;15(1):5-19.

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